To: Jeffrey Carman
From: Bill Fitzpatrick BF
Date: 1-7-88
Subject: Calumet Lake

Attached is a progress report of my work in the Calumet Lake region. This report is essentially a list of activities over the fourth quarter of 1987. I would like to thank you for taking time to meet with me and share information on the U.S. Scrap site and E&E's work in the area. I'll send you future updates on my work as this project progresses. If you need additional information or would like to discuss this further please give me a call (217-333-4768).

"An Assessment of Selected Pollutants Transported by Surface Water to Lake Calumet"

Progress Report for the period: October 1, 1987 through December 31, 1987

by

William P. Fitzpatrick and Nani G. Bhowmik

Illinois State Water Survey

December 1987

Objectives

1. Investigate the surface flow pattern in the study area.
2. Investigate the instantaneous quantities of selected pollutants carried by streamflow at three locations in the study area.

Work to achieve the above objectives was performed in three areas: 1) field reconnaissance of the surface drainage, 2) discussions with various agencies to investigate drainage and pollutant sources in the study area; and 3) field measurements of the discharge and loads of selected pollutants.

Summary of Activities:

October 28,1987- Toured the study area to examine surface drainage pattern and potential future sampling sites. Identified major drainage ditches, culverts, sewer inlets and outlets in the watershed. Detailed examination of the surface drainage to Pullman Creek, the Doty Ave. roadside ditches, I-94 frontage road ditches, and the Stony Ave roadside ditches. Preliminary selection of five potential future sampling sites was made.

October 29,1987- Met David Seely (USEPA) and Jeffrey Carman (Ecology and Environment, Inc.) at the U.S. Scrap Superfund site. Toured the site and discussed the background and present conditions at the site. Ecology and Environment, Inc. is the principal contractor examining the degree of soil and groundwater contamination at the site. Based on present information the site has a Superfund ranking of 1.29 (currently a ranking of 28.5 is required for inclusion on the National Priority List). Additional data collection is being conducted.

Further examination of the drainage to Indian Treaty Creek, Stony Ave roadside ditches, the outfalls to Calumet Lake and the Calumet River, and the storm water retention pond northeast of the Port Authority was performed.

November 19, 1987- Further reconnaissance of the drainage in the area and selection of potential sampling sites. Four suspended sediment samples were obtained from Pullman Creek, Indian Treaty Creek, and two sewer outfalls to the Calumet River and Calumet Lake. Discharge measurements were performed at these sites. Met Edward Washbaum (MSD) and discussed the sludge drying beds located

100 time per year during storm events which overload the sewer lines.

The Illinois Department of Transportation maintains the drainage of Interstate 94. Roadside drainage ditches intercept runoff from the road and convey it to storm sewers beneath the interstate or to a gravity discharge point 600 feet south of the mouth of Pullman Creek (Figure 1). The storm sewers under the interstate are drained by a pump station located near the northwest shore of the lake. This pump station discharges into Pullman Creek which flow south into Calumet Lake. Some areas adjacent to the interstate also drain into the Pullman Creek channel as shown in Figure 1.

Industries on Chicago Port Authority properties are serviced by a combined sewer which discharges to the MSD Calumet Sewage treatment Plant west of the lake. This sewer system discharges into Lake Calumet and the Calumet River when the capacity of the line is exceeded. The overflow points are shown on Figure 1.

Data Collection

To date 11 suspended sediment concentration, 7 TOX, and 7 metal samples have been obtained processed and delivered to the analytical laboratories. Laboratory results are expected from this first batch by the middle of January 1988. Seven discharge measurements have been performed. All major inflow sources to the lake have been identified and plotted at a scale of 1:24000 (same scale as 7.5' U.S.G.S. topo) on an overlay transparency (figure 1). Field and laboratory quality assurance and control procedures involving field standards and blanks, duplicates, storage blanks, replicate analysis, and instrument calibrations as outlined in the project proposal are being followed.

Future Work

The remainder of field data collection activities will be on continued monthly and storm event sampling in the watershed. Analysis of loadings at the sampling sites will be performed when laboratory results are obtained. Sources of pollutants and effects on the receiving waters will be analyzed for the project final report.

Schedule

Activities and objectives for this project are on schedule as outlined in the project proposal. No delays or changes are anticipated in the future.

Personnel

The only salary charge incurred by the project has been for William P. Fitzpatrick.

Presentations, Publications, and Publicity

No activities in these areas have been performed to date.